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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHOU, ALBERT T	

ART UNIT	PAPER NUMBER
2471	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/558,434	HA ET AL.	
	Examiner	Art Unit	
	ALBERT T. CHOU	2471	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2009 for the amendment*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7,10,15,21,22,29,30,38,39 and 43-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :07/02/2009, 07/22/2009, 10/02/2009, 12/18/2009

DETAILED ACTION

Response to Amendment

1. Applicant's Amendments/Remarks filed on October 2, 2009 have been entered. Claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 have been amended. Claims 3-6, 8, 9, 11-14, 16-20, 23-28, 31-37 and 40-42 have been canceled. No claims have been added. Claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are pending in this application, with claim 1 being independent.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention.

While claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are directed to an electric device for communicating with another electric device on a network, the claimed electric device fails to include tangible elements, hardware structures or parts that embody a particular or specific, tangible practical application of the invention.

Specifically, the electric device in claim 1 includes terms such as an application layer, a network layer, a data link layer, a physical layer, … an application software, a network management layer and a parameter management layer, etc., that are either

software modules or abstract ideas, that are not directed to a man-made tangible embodiment (i.e. hardware structure), and that could be completely performed mentally, verbally, without tying to a machine in accordance with its broadest reasonable interpretation. Thus, claim 1 is non-statutory.

Dependent claims 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 depend from claim 1, and are directed to communication protocols, which are no more than set of rules, conventions and data structure (i.e. involving no more than a manipulation of an abstract idea or data structure), and may be completely implemented by computer software. Thus, in addition to the above recited reason to claim 1, claim 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are also non-statutory.

Examiner's Notes:

(I). In light of applicant's specification, the present application is directed to a home network using a living network control protocol (LnCP). The home network system includes a network based on a predetermined protocol, (LnCP) at least one electric device connect to the network and a network manager connected to the network for controlling and monitoring the electric device [see Abstract]. Thus, the "invention" of the current application is directed to the home network system using the LnCP protocol, rather than the electric device connected to the home network.

(II). The claim scope is undetermined as a reasonable interpretation of the claims refer to an electric device that lacks hardware structure, or pats, or of certain deices and combination of devices.

In order to expedite a comprehensive examination of the instant application, the claims rejected under 35 U.S.C.101 (non-statutory) above, are further rejected as set forth below in anticipation of applicant amending these claims to place them within the admissible statutory categories of invention.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "*the network layer connects the electric device to the other network electric device*." It is not clear how the network layer, which may be embodied by a software module or pure abstract idea, can be used to connect two physical devices. In other words, the network layer, per se, is an abstract idea, not a physical or a concrete thing and thus cannot be used to connect two physical devices.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by "A New Control Protocol for Home Appliances-LnCP" by Lee et al., Industrial Electronics, 2001 Proceedings, ISIE 2001, IEEE International Symposium, Volume 1, 12-16 June 2001 Pages: 286 - 291 vol.1 (hereinafter "Lee").

Regarding claim 1, Lee teaches a network electric device **[Fig. 1: appliances, e.g. an oven, an air conditioner, a refrigerator, etc.; sec. 2.1]** for communicating with another electric device on a network **[Fig. 1: all appliances are communicating with each other using LnCP protocol. Thus the electric devices in Fig. are in compliance with LnCP protocol, layer structures and/or OSI seven-layer structures; sec. 2.1]** by including an application layer, a network layer, a data link layer and a physical layer **[based on the ISO seven layers network protocol model, which including an application layer, a network layer, a data link layer and a physical layer; sec., 2.2]**,

wherein the application layer handles a message for controlling or monitoring the network electric device or the other network electric device **[Fig. 1; LnCP Application**

Layer is responsible for monitoring/ message generation/reception/execution; sec. 2.2],

the network layer connects the electric device to the other network electric device **[Fig. 1; a network layer function (i.e. end-to-end packet delivery) is inherent in Lee in order to enable the network manager to communicate with the appliances (e.g. a user uses the network manager to issue commands to control/monitor the appliances0; sec. 2.1, 2.2 & 4.0 (Packet Structure)]**,

the data link layer accesses a shared transmission medium **[Fig. 1; LnCP Data Link Layer handles reception of packets over the attached medium, a networking bus, e.g. a power line, shared by all nodes; sec. 2.2]**, and

the physical layer provides a physical interface between the network electric device and the other network electric device **Fig. 1; LnCP Physical Layer provides physical interfaces among all nodes, including the network manager, attached to the networking bus; sec. 2.1 & 2.2]**, and

wherein the network electric device includes:

an application software for performing an intrinsic function of the network electric device, and providing an interface with the application layer **[Fig. 1: an application software, which provides an interface with the application layer, is inherent in Lee in order for an appliance (e.g. oven, air conditioner, refrigerator, etc.) to perform its intrinsic function]** ;

a network management layer for managing a parameter or the network electric device accessing the network **[Fig. 1; a network manager provides user interface to**

issue commands for controlling and monitoring the electric devices; sec. 2.1];

and

a parameter management layer for setting, getting or transmitting a parameter used in the application layer, the network laver, the data link layer and the physical layer upon the request of the network management sub-layer **[Fig. 1; network manager provides user interface to issue commands for controlling and monitoring the electric devices; sec. 2.1]**.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over "A New Control Protocol for Home Appliances-LnCP" by Lee et al., Industrial Electronics, 2001 Proceedings, ISIE 2001, IEEE International Symposium, Volume 1, 12-16 June 2001 Pages: 286 - 291 vol.1 (hereinafter "Lee"), in view of "Towards Dependable Home Networking: An Experience Report" by Wang et al., Proceedings International Conference on Dependable Systems

and Network, 2000, DSN 200025, IEEE Computer Society, pages 43-48 (hereinafter "Wang").

Regarding claim 2, Lee teaches each limitation set forth in its parent claim.

Lee does not expressly teach the network electric device, wherein the physical layer further comprises a special protocol for providing an interface with a dependent transmission medium, and the network electric device includes a home code control sub-layer for managing a home code for network security when accessing the dependent transmission medium.

Wang, in the similar field of endeavor, teaches a dependent home network **[Title & Abstract]**, comprising electric devices such as RF transmitter, RF receiver, garage door opener, lamp, etc., wherein the physical layer comprising a special protocol for providing an interface with a dependent transmission medium **[Wang: Fig. 1; an X10 protocol to interface a dependent transmission such as a power line; P. 45, R. column, 3rd par. - P.46, R. column, 2nd par. & Sec. 5. 1st -3rd par.]**.

In addition to Wang's teaching, it would have been obvious to one person of ordinary skill in the art at the time of invention was made to recognize that in accordance with the OSI Reference Model, the network layer is responsible for providing the functional and procedural means of transferring variable length data sequences from a source to a destination host via one or more networks. The network layer uses a logical addressing scheme, and any host connected to a network is assigned with a logical address chosen by a network operator.

Accordingly, it is obvious to one person of ordinary skill in the art to recognize that the home code in Lee, which comprising the product code and the logical address (device address and area code), is indeed a logical address associates with a node connecting to the network as shown in Fig. 1 of Lee.

Since the OSI model is the well-known industry standard, it would have been obvious to one person of ordinary skill in the art to modify Lee's LnCP model by adding the X10 protocol in the physical layer, a network layer and a home code sub-layer so that the node-to-node packet exchanges and home-code processing, since these are network layer functions, may be handled by the network layer and the home code sub-layer via the dependable transmission medium, such as the power line, using X10 control protocol.

The motivation of adding the X10 protocol and the network layer, which further comprising the home code sub-layer, would be to enable Lee's LnCP to distinct the functions of the physical layer, the data link layer and the network layer (instead of throwing them together) so that the physical layer, the data link layer and the network functions may be clearly and easily implemented and processed hierarchically.

Regarding claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49, Lee, in view of Wang, teaches a home networking system, comprising a plurality of electric appliances (i.e. an oven, an air conditioner, etc.), using a Living Network Control Protocol LnCP, based on OSI reference model and layer stricture, for monitoring, controlling and providing packet exchanges between nodes within the home networking system.

Claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49, which depend from claim 1 directly or indirectly, are directed to a communication protocol which is no more than a set of rules, conventions and data structure.

Thus, it would have been obvious to one person of ordinary skill in the art to recognize that there is no technical difference between the limitations of claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 of the present application and the combining teachings of Lee and Wang, except claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 further involving a manipulation of an abstract idea or data structure. Thus, the limitations of claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 do not depart from the scope and spirit of the combining teachings of Lee and Wang.

Also see 35 USC 101 Rejection to claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 in Section 2 of present Office Action.

Response to Remarks

6. In light of applicant's amendments, filed on October 2, 2009, regarding the rejection of claims 1-49 under 35 USC 101 has been withdrawn. However, a new ground of rejection of claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 under 35 USC 101 has been established. For detail see Section 2 of present Office Action.

7. Applicant's remarks/arguments filed on October 2, 2009 regarding 35 USC 103(a) rejection of claim 1 and its dependent claims in the application have been fully considered but they are moot in view of new ground of rejection.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert T. Chou whose telephone number is 571-272-6045. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham, can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Albert T Chou/

Primary Examiner, Art Unit 2471

January 1, 2010